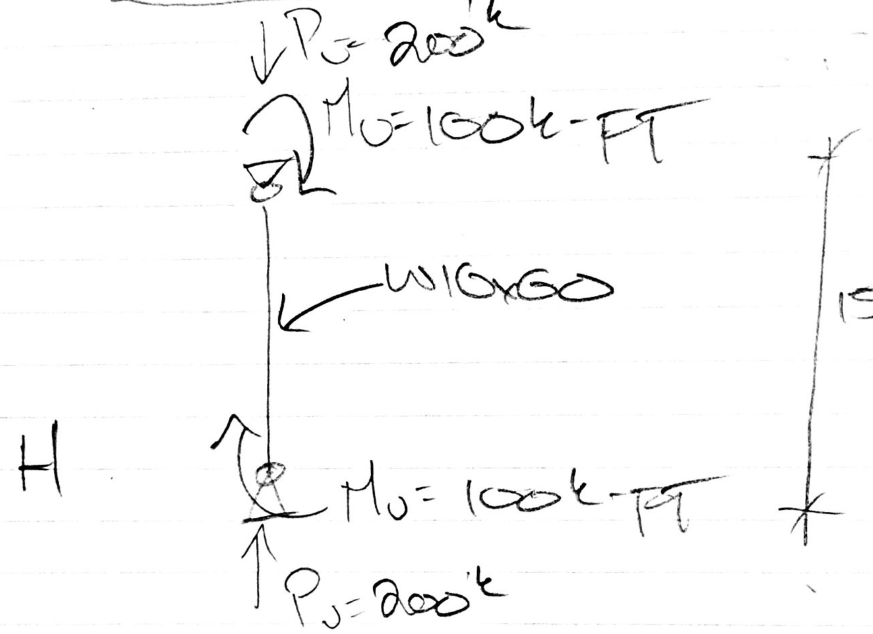


BRACED AGAINST LATERAL TRANS.

$$M_r = B_1 M_{nt} + \cancel{B_2 M_{et}}$$

$$P_r = P_{nt} + \cancel{B_2 P_{et}}$$

$$C_m = 0.6 - 0.4\left(M_1/M_2\right) = 0.6 - 0.4\left(1\right) = 0.2 > \underline{\underline{1.0}}$$

$$B_1 = \frac{C_m}{1 - \alpha P_r / P_{e1}} \qquad P_{e1} = \frac{\pi^2 EI}{(K_1 L)^2}$$

$$B_1 = \frac{1.0}{1 - 200/3092} = 1.07 \qquad = \frac{\pi^2 (29{,}000)(841)}{(1.0 \times 15' \times 12'')^2} = 3092^k$$

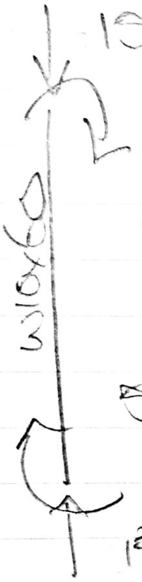
$P_r = 200^k$

$M_r = 1.07 \times 100^{k\text{-FT}} = 107 \text{ K-FT}$

$pP_r = (1.8 \times 10^{-3})\, 200 = 0.36 \geq 0.2$

$pP_r + b_x M_{rx} = 0.36 + (3.46 \times 10^{-3})(107)$

$= 0.73 \leq 1.0 \Rightarrow$ MEMBER OK.



P_{nt} P_{et}

$150^k + 50^k$

$75^{k\text{-}FT} + 25^{k\text{-}FT}$

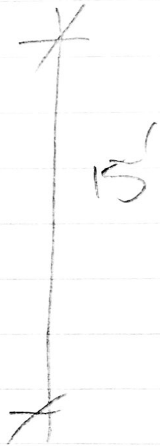
M_{nt} M_{et}

$50^{k\text{-}FT} + 50^{k\text{-}FT}$

M_{nt} M_{et}

$150^k + 50$

P_{nt} P_{et}



<u>NOT</u> BRACED.

$P_{STORY} = 2000^k$

EVERY COL IS MF.

$H = 100^k$

$M_r = B_1 M_{nt} + B_2 M_{et}$

$P_r = P_{nt} + B_2 P_{et}$

$$P_{e\,STORY} = R_M \frac{HL}{\Delta H}$$

$$R_M = 1 - 0.15\,(1.0) = 0.85$$

$$1 - 0.15\left(P_{mf}/P_{STORY}\right)$$

$$\Delta H = 0.01 \times 15' = 1.8''$$

$$P_{e\,STORY} = 0.85 \times \frac{100^k \times (15 \times 12)}{1.8''} = 8500^k$$

$$B_2 = \frac{1}{1 - \frac{\alpha P_{STORY}}{P_{e\,STORY}}} = \frac{1}{1 - \frac{(1.0)(2000)}{8500}} = 1.31$$

$$P_r = 150^k + (1.31)(50^k) = \underline{216^k}$$

$$B_1 = \frac{C_m}{1 - \alpha P_r / P_{e1}}$$

$$P_{e1} = 3012^k \text{ (FROM PREVIOUS)}$$

$$C_m = 0.6 - 0.4\left(50/75\right) = 0.33 \geq 1.0$$

$$B_1 = \frac{1.0}{1 - 1.0 \times 216^k / 3012} = 1.08$$

$$M_r = 1.08 \times 50 + 1.31 \times 50 = \underline{120\text{ k-FT}}$$

$$pP_r + b_x M_{rx} \leq 1.0$$

$$(1.8 \times 10^{-3})(216) + (3.46 \times 10^{-3})(120) = 0.8 \text{ ok}$$